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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,779	10/23/2003	Yohsuke Takeuchi	Q78106	1599
23373	7590	09/13/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			CHU, JOHN S Y	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/690,779

Applicant(s)

TAKEUCHI ET AL.

Examiner

John S. Chu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/23/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

This Office action is in response to the application filed October 23, 2003.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over SCHELER et al in view of Journal article "Coupling of diazonium compounds with 2-methylbenzothiazoles", (Pierrot et al).

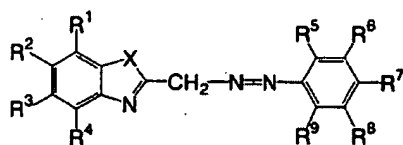
The claimed invention is drawn to the following;

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1. A recording material comprising: on a support, a recording layer including a diazo compound, a coupler compound that can react with the diazo compound to form a color, and a metal salt, wherein

the coupler compound is represented by the general formula (1):

General formula (1)

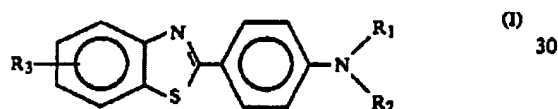


wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> each independently represent a hydrogen atom, an alkyl group, an aryl group, an alkoxy group, or an amino group; R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, and R<sup>9</sup> each independently represent a hydrogen atom, a halogen atom, an alkyl group, an aryl group, an alkoxy group, an aryloxy group, an alkylthio group, an arylthio group, an alkylsulfonyl group, an arylsulfonyl group, an alkoxycarbonyl group, an aryloxycarbonyl group, an acyloxy group, an acyl group, a carbamoyl group, an acylamino group, a sulfamoyl group, a sulfonamide group, a cyano group, or a

SCHELER et al discloses a diazotype light sensitive material wherein the components in include a diazonium salt and a coupler. Applicants are directed to column 3, line 25 – column 4, line 16 which discloses the following structure:

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The light-absorbing compound preferably comprises 25  
a benzothiazole, in particular a benzothiazole of the  
formula:



This compound disclose the use of benzothiazole compounds in as an additive component for diazotype image forming materials which serve to gives the material a flat gradation as well as no background staining.

SCHELER et al lacks the claimed compound of formula I in claim 1.

PIERROT et al discloses the use of a coupler for diazonium compounds defined as benzothiazole, 2-[(p-nitrophenylazo)methyl-] as seen in the Chemical Abstracts copy. This disclosure clearly suggests the use of the benzothiazole, 2-[(p-nitrophenylazo)methyl-] as a coupler in image forming materials with a diazonium compound.

It would have been *prima facie* obvious to one of ordinary skill in the art of diazonium image forming materials to substitute the coupler of PIERROT et al as disclosed and suggested for the additive benzothiazole compound found in SCHELER et al with the reasonable expectation of same or similar results as disclosed in SCHELER et al for improved gradation and no background staining.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. SCHICKFLUSS et al is cited to disclose an azo dyestuff compound having a benzothiazolyl radical.

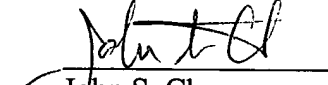
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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for the USPTO is (703) 872-9306. **On July 15, 2005 applicants should begin sending correspondence to the new USPTO Central fax phone number at 571-273-8300. Applicants can still use the old fax number until September 15, 2005 at which time the old fax number will no longer be operational.**

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John S. Chu  
Primary Examiner, Group 1700

J.Chu  
September 7, 2005